

bian which may be encouraged in gardens and orchards that afford cool and moist environment congenial for the life of this toad.

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8. BIOMETRIC STUDIES ON *THERAPON JARBUA* (BLOCH)<sup>1</sup>

(With a text-figure)

## INTRODUCTION

*T. jarbua* occurs in brackish waters and in the sea off Madras throughout the year. At Porto Novo (11° 29'N 79° 49'E) and also in the Vellar estuary, this species occurs at all times of the year, but larger specimens of the size 12.0-14.6 cm were obtained from the sea. This note deals

<sup>1</sup> This study formed a part of the dissertation submitted in partial fulfilment of the requirements for the degree of M.Sc., from the Annamalai University, 1969.

with certain biometric characters of the perch *Therapon jarbua* of the Porto Novo area.

#### MATERIAL AND METHODS

Random samples were collected from the catches landed by gill nets, drift nets and cast nets. The collections were made between first week of July and end of December, during which period, *T. jarbua* is landed abundantly. The data on the morphometric characters were subjected to statistical analysis to estimate the population parameters. A total of 92 specimens belonging to different size classes, were used for this study. All the fishes were measured, in fresh condition, for standard length, total length, fork length, head length, pre-orbital length, post-orbital length, pectoral fin length, pelvic fin length, depth occiput, depth at dorsal origin, depth at anal origin, snout to the pelvic origin, snout to the anal origin, first dorsal lobe and second dorsal lobe. Standard length of the fish was used as a basic character, against which regression curves, for other variables were drawn. The data is arranged according to numerical values and separated into 10 classes of 0.9 cm interval.

With a view to finding out the relationship between the various parameters and standard length, the general equation  $y = a + bx$  was employed. The 'a' and 'b' values for each parameter are given in the Table 1.

TABLE 1  
REGRESSION COEFFICIENT, 'A' AND 'B' VALUES AND THE  
ANGLE OF THE TANGENT FOR DIFFERENT BODY REGIONS

Sl. No.	Parameters	'A' value	'B' value	Angle of the Tangent value	Allometry
1.	Eye diameter	0.184	0.067	3° 50'	—
2.	Snout length	0.147	0.083	4° 45'	—
3.	Post orbital	0.227	0.155	8° 49'	—
4.	Pectoral fin	0.181	0.160	9° 6'	—
5.	Depth occiput	0.355	0.174	9° 52'	—
6.	II Dorsal lobe	0.021	0.188	10° 39'	—
7.	Pelvic fin	—0.052	0.215	12° 8'	—
8.	Depth anal	0.091	0.273	15° 16'	—
9.	Head length	0.472	0.289	16° 8'	—
10.	Depth dorsal	0.199	0.321	17° 48'	—
11.	I dorsal lobe	—0.085	0.330	18° 16'	—
12.	Snout to pelvic	0.495	0.340	18° 47'	—
13.	Snout to I dorsal	0.262	0.379	20° 45'	—
14.	Snout to anal	0.146	0.662	33° 31'	—
15.	Snout to II dorsal	0.250	0.668	33° 45'	—
16.	Snout to fork	0.268	1.129	48° 29'	+
17.	Total length	0.160	1.227	50° 49'	+

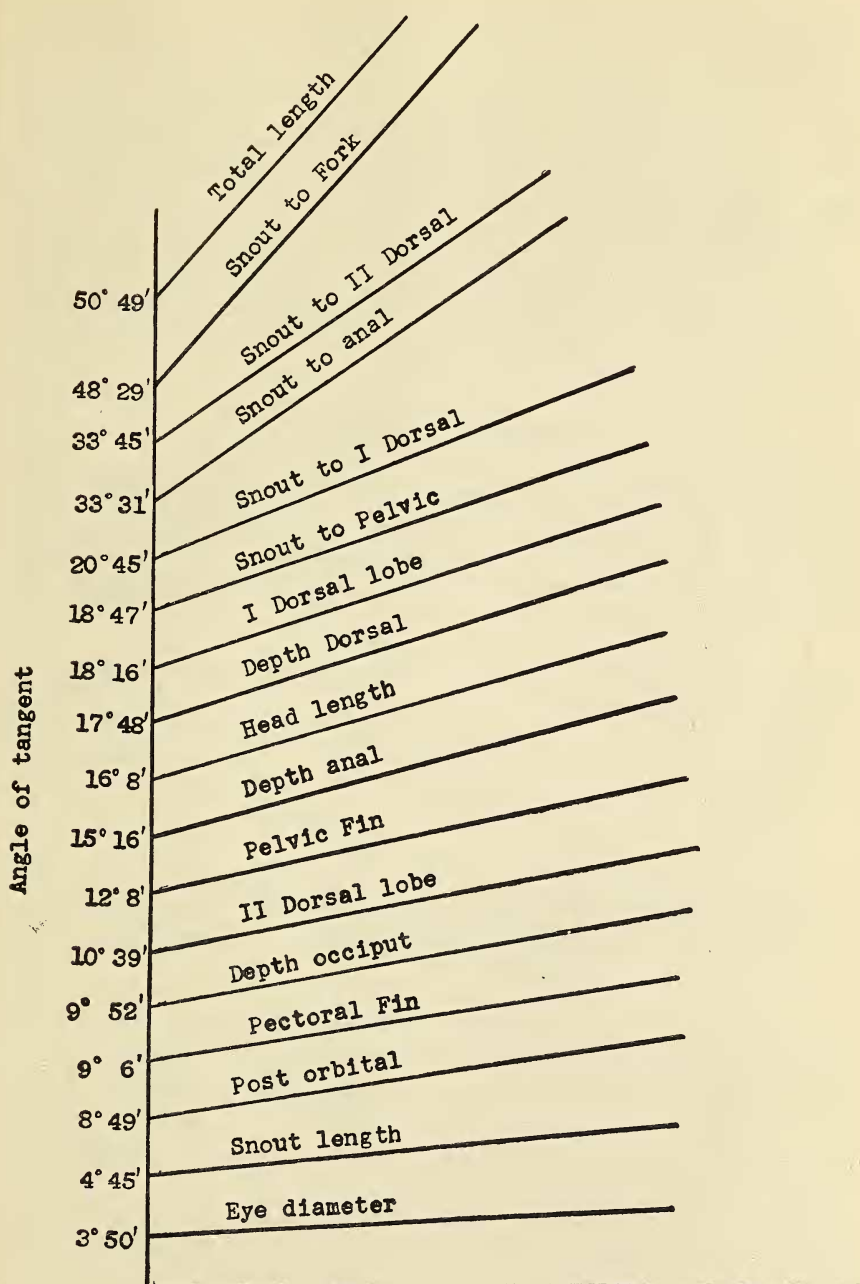


Fig. 1.

Allometry

GROWTH RATE OF VARIOUS PARAMETERS

## RESULTS AND DISCUSSION

The data analysed are presented in table 1. The regression lines based on the angle of the tangent are presented in Fig. 1, where the growth rate of various parameters are shown. The regression lines reveal that the total length has the fastest growth followed by the fork length. Snout to second dorsal grows faster than the snout to anal. A comparison of the relative growth of the fins shows that the first dorsal lobe grows faster than the pelvic fin, second dorsal lobe and pectoral fin.

The rate of growth of head length falls between depth dorsal and depth anal. Eye diameter recorded the slowest rate of growth, the second least being the snout length.

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## 9. ON THE OCCURRENCE OF A RECORD SHOAL OF RED SNAPPER *LUTIANUS ARGENTIMACULATUS* FORSKAL OFF COCHIN

Landings of perches are common along the east coast of India even though they appear sporadically along the west coast. However, it is of interest to record a shoal of 170 Red Snapper *Lutianus argentimaculatus* Forskal weighing 1141 Kg which were caught off Cochin by the vessel 'Blue Fin 93', training-cum-fishing vessel of the Central Institute of Fisheries Operatives, Cochin.

The fishes were caught by the vessel on 31st January 1972 when she was on her 142nd voyage at a depth of 25 m between 0830 and 1015 hrs in a single haul. The weight of the specimens ranged between 7 to 10 Kg and were 51 to 63.5 cm in length. The most interesting feature which needs special mention is that even though the vessel operated the same gear (450 meshes Trawl-Garfil) in the same ground and at the same depth and made five hauls, not a single specimen was caught in the other four